

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.:

Group Art Unit:

Inventor: Richard J. Jibb

Filed: Concurrently

Title: HEAT EXCHANGER DISTRIBUTOR
FOR MULTICOMPONENT HEAT
EXCHANGE FLUID

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In accordance with 37 CFR 1.51, 1.56 and 1.97 to 1.99, the following is a relevance statement on each citation listed on attached form PTO-1449, and is made of record to assist the Patent & Trademark Office in its examination of this application:

U.S. 4,646,822 – Voggenreiter et al. discloses a heat exchanger for a fluid media which is a mixture of a gas phase into a liquid phase having a mixing device in the form of a bar which has channels for one of the phases in a duct extending the length of the bar. There is no disclosure of a heat exchanger distributor which facilitates homogeneous flow of a two phase multicomponent heat exchange fluid comprising a plurality of spaced dividers extending longitudinally through some or all of the length of the finned section of the distributor, and thus this patent neither discloses nor suggests applicant's claimed invention.

U.S. 5,438,836; U.S. 5,537,840; U.S. 5,724,834 – Srinivasan et al. discloses a downflow heat exchanger wherein liquid distribution for uniform flow is carried out above the vapor passages and the well distributed liquid is passed into the liquid passages and then down through the liquid passages cocurrently with vapor in adjacent liquid passages. There is no disclosure of a heat

exchanger distributor which facilitates homogeneous flow of a two phase multicomponent heat exchange fluid comprising a plurality of spaced dividers extending longitudinally through some or all of the length of the finned section of the distributor, and thus this patent neither discloses nor suggests applicant's claimed invention.

U.S. 6,044,902 – Pahade et al. discloses a heat exchanger having a first counterflow heat exchange unit with first and second segments and a second counterflow heat exchange unit juxtaposed to the second segment of the first unit with a crossflow subcooling unit juxtaposed to the first segment. There is no disclosure of a heat exchanger distributor which facilitates homogeneous flow of a two phase multicomponent heat exchange fluid comprising a plurality of spaced dividers extending longitudinally through some or all of the length of the finned section of the distributor, and thus this patent neither discloses nor suggests applicant's claimed invention.

U.S. 6,065,305 – Arman et al. discloses a system for cooling a fluid wherein a multicomponent refrigerant fluid is partially condensed, the liquid used to generate refrigeration to cool the product by recycle into an upstream portion of the warming leg of the refrigeration circuit, and the vapor is used to generate refrigeration at a colder temperature. There is no disclosure of a heat exchanger distributor which facilitates homogeneous flow of a two phase multicomponent heat exchange fluid comprising a plurality of spaced dividers extending longitudinally through some or all of the length of the finned section of the distributor, and thus this patent neither discloses nor suggests applicant's claimed invention.

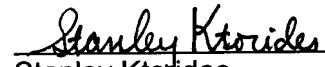
U.S. 6,330,811 – Arman et al. discloses a system for generating refrigeration wherein a multicomponent refrigerant is compressed in a compressor lubricated with polyalphaolefin-based oil, the oil is removed from the compressed refrigerant, and the compressed refrigerant is expanded to generate refrigeration at a cryogenic temperature for provision to a refrigeration receptor. There is no disclosure of a heat exchanger distributor which facilitates homogeneous flow of a two phase multicomponent heat exchange fluid

- 3 -

comprising a plurality of spaced dividers extending longitudinally through some or all of the length of the finned section of the distributor, and thus this patent neither discloses nor suggests applicant's claimed invention.

A copy of each of the citations is enclosed herewith.

Respectfully submitted,



Stanley Ktorides
Attorney for Applicant
Reg. No. 29,399

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113
Phone: (203) 837-2178

Attorney Ref.: D-21371

Date: AUGUST 26, 2003

Form PTO-1449 (Rev. 8-83)		U.S. Department of Commerce		Atty. Docket No. D-21371		Serial No.							
Information Disclosure Citation (Use several sheets if necessary)				Applicant Jibb									
				Filing Date		Group							
U.S. PATENT DOCUMENTS													
Examiner Initial		Document Number		Date	Name		Class	Subclass	Filing Date if Appropriate				
		4	6	4	6	8	2	2	3/1987	Vogggenreiter et al.	165	166	
		5	4	3	8	8	3	6	8/1995	Srinivasan et al.	62	36	
		5	5	3	7	8	4	0	7/1996	Srinivasan et al.	62	643	
		5	7	2	4	8	3	4	3/1998	Srinivasan et al.	62	643	
		6	0	4	4	9	0	2	4/2000	Pahade et al.	165	166	
		6	0	6	5	3	0	5	5/2000	Arman et al.	62	613	
		6	3	3	0	8	1	1	12/2001	Arman et al.	62	643	
FOREIGN PATENT DOCUMENTS													
		Document Number		Date	Country		Class	Subclass	Translation				
									Yes	No			
Other Documents (including Author, Title, Date, Pertinent Pages, Etc.)													
Examiner				Date Considered									
<p>* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>													